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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/967,312	09/28/2001	Kiyoshi Yamaura	112857-291	5200
29175	7590	02/24/2004	EXAMINER	
BELL, BOYD & LLOYD, LLC P. O. BOX 1135 CHICAGO, IL 60690-1135			MERCADO, JULIAN A	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 02/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/967,312

Applicant(s)

YAMAURA ET AL

Examiner

Julian Mercado

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7, 8, 13 and 14 is/are rejected.
- 7) ☐ Claim(s) 9-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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## DETAILED ACTION

### *Election/Restrictions*

Claims 1-6 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in applicant's communication filed November 24, 2003.

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13 and 14 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation "the fine particles" in line 1. There is insufficient antecedent basis for this limitation in the claim. It appears to the examiner that claim 13 should be amended so as to depend from claim 9.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being dependent upon a rejected base claim.

*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe et al. (U.S. Pat. 5,728,485).

Regarding independent claim 7, Watanabe et al. teaches a method of preparing a fuel cell comprising the steps of providing a proton conductor film such as an electrode and forming a Pt catalyst layer [5] thereon. (col. 3 line 31-40, col. 6 line 52-56, col. 10 line 5-16)

Claims 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Polak et al. (U.S. Pat. 4,594,297).

Regarding independent claim 7, Polak et al. teaches a method of preparing a fuel cell comprising the steps of providing a proton conductor film such as the ion conducting membrane [1] and forming a Pt catalyst layer [5] thereon via sputtering. (col. 7 line 53-55, also applies to dependent claim 8)

Claims 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Ayers (U.S. Pat. 5,141,604).

Regarding independent claim 7, Ayers teaches a method of preparing a fuel cell comprising the steps of providing a proton conductor film [5] and forming a metal catalyst layer

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[7, 9] thereon via sputtering, glow discharge or chemical vapor deposition. (col. 3 line 47-49, col. 17 line 38-43, also applies to dependent claim 8)

Claims 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawatsu (U.S. Pat. 5,897,766).

Regarding independent claim 7, Kawatsu teaches a method of preparing a fuel cell comprising the steps of providing a proton conductor film [10] and forming a Pt. metal catalyst layer thereon via sputtering, vapor deposition or chemical vapor deposition (CVD). (col. 11 line 26-30, applies to dependent claim 8)

#### *Allowable Subject Matter*

Claims 9-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. To the extent that scope of claims 13 and 14 are understood by the examiner, claims 13 and 14 would be allowable if claim 13 is rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph in the manner suggested by the examiner set forth above.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record and to the examiner's knowledge does not teach or render obvious at least to the skilled artisan the instant invention regarding adding a plurality of fine particles to the proton conducting film layer prior to forming the catalyst layer thereon, and removing the fine particles subsequent to forming the catalyst layer to form one or more ventilation openings.

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The prior art made of record above (that to Watanabe et al., Polak et al., Ayers and Kawatsu) and relied upon in the present Office action do not teach or reasonably suggest particles added to the proton conducting film layer which are removed subsequent to the formation of the catalyst layer to form ventilation openings. With respect to the teachings of Polak et al., Ayers and Kawatsu, the patentees teach fully adherent and laminar coating of the catalyst layer on the membrane. With respect to Watanabe et al., ventilation openings are taught in a catalyst layer by way of the porosity provided for by the network of carbon fibers which allow for gas diffusion and discharge through the electrode, as detailed in col. 6 line 18-28:

Since the carbon fibers provide porosity when they are employed as a support different from a carbon particle, the supply of the reaction gas to the electrocatalyst layer and the discharge of the produced gas from the electrocatalyst layer can be smoothly attained. The gas diffusion in the electrode in the high current density range is rate-determining, and the amount of water produced is large especially at a cathode in the high current density range which is required to be effectively discharged for effectively introducing an oxygen gas to the catalyst surface.

However, Watanabe et al. do not teach the formation of these ventilation openings in the manner that is presently recited in dependent claim 9.

### *Conclusion*

The foreign references cited in the IDS paper filed March 18, 2002 could not be considered by the examiner as these references are absent from the file, and because these references are not in the English language, it is not clear in what form applicant intends to have these references considered, i.e. via an accompanying translation, English-language abstract or statement of relevance per MPEP 609. Applicant is requested to provide both copies of each

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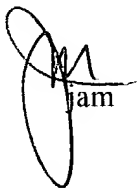
reference along with its accompanying document(s) for the examiner's consideration in response to this Office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



jam



Patrick Ryan  
Supervisory Patent Examiner  
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